STARK COUNTY METROPOLITAN SEWER DISTRICT

JAMES R. JONES, P.E.
SANITARY ENGINEER

1 (c)(d)(e)

December 2, 2010

Canton Drop Forging and Mfg. Co.
Attn: Keith Houseknecht
4575 Southway SW
Canton, OH 44706

213 FROM JANET

Dear Mr. Houseknecht:

Would you please send us the average number of employees at the subject address for this past calendar year. Do not include office personnel. This is needed to calculate sewer service charges for 2011. I will also need the daily hot process water discharge. You are currently billed 7,095 gallons per day. Please reply as soon as possible.

Enclosed is a return envelope for your convenience in replying.

Sincerely,

Christine Balahoski
Accounts Inspector

CANCELED 1/10/2011

330 451 2327

c:file

P.O. BOX 7906 • 1701 MAHONING RD. N.E. • CANTON, OHIO 44705-7906
(330) 451-2303 • fax (330) 453-9044 • e-mail scse@co.stark.oh.us
website • www.se.co.stark.oh.us

1 (c)(d)(e)

CANTON DROP FORGE

April 18, 2001

No Time Limit w/ Prosecutor
1. WAIT FOR DECISION
NO DEADLINE
2. ASK FOR MEETING ~~ASAP~~ JUNE WK OF 6/11
NEGOTIATE LOW or NO CHARGE
& LOWER M.C. CHARGES
TONY WILL ARRANGE

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 00457B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $1011.76 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 00457B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 00457B, $852.00.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000138

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

INVOICE

INVOICE # 00457B

4/5/01

STARK COUNTY

METROPOLITAN SEWER DISTRICT

1701 Mahoning Rd. N.E. P.O. Box 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forging and Mfg. Co.
MAILING ADDRESS: 4575 Southway SW, Canton, Ohio 44706
SERVICE FEES FOR: March Service

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

DESCRIPTION	NET	GROSS
Sanitary Sewer Service for March, 2001		
Office 8 Toilets/Urinals x $19.82	$158.56	
		$174.42
Plant Employees 237 x $3.60	$853.20	
		$938.52
Hot Process Water Discharge (25 GPM) (2)		
(10 Hr. Day)(60 Min/Hr) = 30,000 Gal/Day		
x 20 Days = 600,000 Gal. -:- 1000 = 600		
600 x 1.42	$852.00	
600 x 1.56		$936.00
Net amount to be paid if postmarked or delivered by April 19, 2001.		
After that date, please pay gross amount.		
TOTAL NET	$1,863.76	
TOTAL GROSS		$2,048.94

CDF000139

1(c)(d)(e)

idreco

3/16/01

Service Report - by G. J. Crits

From:

Idreco USA Ltd.
24 Hagerty Blvd., Suite 9
West Chester, PA 19382
Ph: 610-701-9944
Fx: 610-701-9575
Info@idrecousa.com

To:

Canton Drop Forge
4575 Southway Street S.W.
Canton, OH 44706
Ph: 330-477-4511
Fx: 330-477-2046

Re:

Cochrane 1942 Vintage Hot Process Softener (HPS)
S.O. 1750-42, dwg.# G-1193
Downflow Sed. tank- 12' Dia., 16,000 gph

Attendees Present:

George Crits, Geoff Quinn (Idreco)
Keith Houseknecht, Richard Brigham (Canton Drop Forge)
Charles Lyle & Jonathan (AMCO Energy Management Tech)

Problem:

General operating problems including; thruput, carry-over, undue scaling of inlet water section, vent, lime feeding, etc. General review of chemistry & operations was required.

Notes:

1. The HPS is a 12' dia. simple downflow type with a DA section rated at 16,000 gph, operating at 6-7 psi with steam supplied from drop forge exhaust operations. There is no vent condenser. This HPS is shut down over the weekend and the temperature drops to about 120 °F. Off hand this is not a problem, since the lime processes are quite effective even at 120 °F, however $Ca(OH)_2$ solubility is somewhat higher at the lower temperatures. But still Ca conc. should be below 50 ppm as $CaCO_3$. Of course on starting up, a colder makeup to the boilers are seen. The HPS can be operated at reduce pressures (2 -3 psi) if desired and would not affect the chemistry or operating parameters. Only the feedwater to the boilers would be lower in temperature. Desludging is continuous at 1 - 2 gpm, and a full blow is performed once a shift.

1/17/2001
518 GALLONS
34.5 MINUTES
15 GPM
KJH

10/1/98
#1 - 400
#2 - 386
BLEND - 388

2. The influent to the HPS is from two wells: one at 1,000 mmhos and the other at 500 mmhos, producing a blend about 750 mmhos. The mixture is not constant and this does not fair well with a steady HPS operation as far as the chemistry & scaling is concerned. It is best to use the better well (500 mmhos) on base loading and add the other as required. The influent water conductivity should be measured and logged regularly so

1(c)(d)(e)

TELECOPIER COVER SHEET

CANTON DROP FORGE

PLEASE DELIVER THE FOLLOWING PAGES TO:

NAME: TONY BROWN

FIRM: _____

CITY: _____

PHONE: ( ) _____ FAX: ( ) _____

FROM - NAME: KEITH HOUSEKNECHT

FIRM: CANTON DROP FORGE

CITY: CANTON, OHIO

TOTAL NUMBER OF PAGES 4 INCLUDING COVER SHEET.

WE ARE TRANSMITTING ON THE FOLLOWING:

DATE: 4/18/01

TIME: 9:00

IF YOU DO NOT RECEIVE ALL PAGES - PLEASE CALL BACK AS SOON AS POSSIBLE.

TELEPHONE: (330) 477-4511, EXT. _____

==========

TONY

WHERE DO WE STAND ON OUR WATER BILL? THE CONTESTED AMOUNT IS BUILDING.

NOTE INFO FROM IDRECO INDICATES FLOW SHOULD BE 1-2 GPM NOT 15 GPM WE ARE MODIFING PROCESS TO THIS NOW INFO.

Keith

CDF000141

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

1(c)(d)(e)

Subj: **Sewer Max Flow per Day**
Date: 7/26/01 11:38:02 AM Eastern Daylight Time
From: Keithjhouse
To: tbrow@zdgt.com

Tony

3/20/1998 the clarifier that we installed had a design rating of 30 GPM. Over sized to be sure it could totally remove the lime that was causing problems for the County sewer system.

1/17/2001 the flow rate was 15 GPM out of the Hot Process Softener.

3/16/2001 George Crits reported that Hot Process Softeners should have a continuous blow down of 1 to 2 GPM.

6/13/2001 some adjustments were made and the new flow rate was 8.3 GPM.

7/23/2001 Control valves were changed and the flow was reset after shut down. The new flow rate is 3.3 GPM. Per 20 hour work day this could be 3960 gallons. Further system refinements are to be completed by the end of the year.

7/26/2001 Dennis DeLong, from Idreco, reviewed the final plans for a Hot Zeolite softener. For a high steam flow and high hardness level the total water to sewer could be 4000 gal per day.

Combining these flows the daily total should never exceed 10,000 gallons. We are scheduled to work 4 days, 2 shifts, 10 hours per shift each week. If we went 5 days per week, a 21 day month, like June 2001, would result in a total flow of 210,000 gallons. The bill for the month would be $298.20. This would not tax the 10" crock sewer that was installed in 1942 to service our plant. I believe a 1/2 full, 10" diameter, gravity sewer can flow 1.2 Cubic feet of water per second. That is 540 gallon per minute. 10,000 gallon per day is about 7 gallon per minute.

I will be back in the plant on Aug 6 if you need additional information.

Keith
Canton Drop Forge

937-320-1801

.56/1000

$560.00/million 1,000,000

CDF000142

A
F
O

1(c)(d)(e)

34525 Melinz Parkway • Suite 205 • Eastlake, Ohio 44095 • (440) 975-1600 • Fax (440) 975-1660

March 20, 1998

Canton Drop Forge
4575 Southway Street, S.W.
Canton, Ohio 44706

Attn: Mr. Keith Houseknecht

RE : **Boiler House Separation System**
Quotation 98-11345- Revision 2

Dear Keith,

North Coast Environmental, Inc. (NCE) is pleased to offer the following **Quotation 98-11345- Revision 2** for the above Waste Treatment project. NCE will supply the following **Engineering Services & Waste Treatment Equipment** to Canton Drop Forge for the **Boiler House Separation System:**

Section 1- Engineering Services

One (1) Piping Construction Drawing Package for Waste Treatment Equipment, prepared on AutoCad Revision 14 (3 Dimensional)

One (1) Electrical Control Panel Drawing Package, Including Full Wiring Schematics, Component Bill Of Material, and Field Wire Cabling Diagram

Section 2-Waste Treatment Equipment

One (1) **North Coast Environmental** Model NCE-1 Inclined Plate Clarifier, Rated For 30 GPM. Clarifier To Be Complete With The Following Accessories:

1. Integral Flash Mix/Flocculation Tank
2. One (1) PVC Incline Plate Pack, 60 Degree, 105 Square Feet Projected Plate Pack Area
3. Exterior To Be Blasted To White Metal & Coated With Epoxy Safety Blue Paint
4. One (1) Sludge Settling Cone
5. Inlet/Outlet Distribution System

1(c)(d)(e)

idreco

3/16/01

Service Report - by G. J. Crits

From:

Idreco USA Ltd.
24 Hagerty Blvd., Suite 9
West Chester, PA 19382
Ph: 610-701-9944
Fx: 610-701-9575
Info@idrecousa.com

To:

Canton Drop Forge
4575 Southway Street S.W.
Canton, OH 44706
Ph: 330-477-4511
Fx: 330-477-2046

Re:

Cochrane 1942 Vintage Hot Process Softener (HPS)
S.O. 1750-42, dwg.# G-1193
Downflow Sed. tank- 12' Dia., 16,000 gph

Attendees Present:

George Crits, Geoff Quinn (Idreco)
Keith Houseknecht, Richard Brigham (Canton Drop Forge)
Charles Lyle & Jonathan (AMCO Energy Management Tech)

Problem:

General operating problems including; thruput, carry-over, undue scaling of inlet water section, vent, lime feeding, etc. General review of chemistry & operations was required.

Notes:

1. The HPS is a 12' dia. simple downflow type with a DA section rated at 16,000 gph, operating at 6-7 psi with steam supplied from drop forge exhaust operations. There is no vent condenser. This HPS is shut down over the weekend and the temperature drops to about 120 °F. Off hand this is not a problem, since the lime processes are quite effective even at 120 °F, however $Ca(OH)_2$ solubility is somewhat higher at the lower temperatures. But still Ca conc. should be below 50 ppm as $CaCO_3$. Of course on starting up, a colder makeup to the boilers are seen. The HPS can be operated at reduce pressures (2 -3 psi) if desired and would not affect the chemistry or operating parameters. Only the feedwater to the boilers would be lower in temperature. Desludging is continuous at 1 - 2 gpm, and a full blow is performed once a shift.

1/17/2001
518 GALLONS
34.5 MINUTES
15 GPM
KJH

10/1/98
#1 - 400
#2 - 386
BLEND - 388

2. The influent to the HPS is from two wells: one at 1,000 mmhos and the other at 500 mmhos, producing a blend about 750 mmhos. The mixture is not constant and this does not fair well with a steady HPS operation as far as the chemistry & scaling is concerned. It is best to use the better well (500 mmhos) on base loading and add the other as required. The influent water conductivity should be measured and logged regularly so

1(c)(d)(e)

CANTON DROP FORGE

February 6, 2001

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 00423B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $1011.76 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 00423B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 00423B, $852.00.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000146

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

INVOICE

INVOICE # 00423B

2/5/01

METROPOLITAN SEWER DISTRICT

1701 MAHONING ROAD N.E. - P.O. BOX 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forging and Mfg. Co.
MAILING ADDRESS: 4575 Southway SW. Canton, Ohio 44706
SERVICE FEES FOR: January, 2001

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.

DESCRIPTION	NET	GROSS
Sanitary Sewer Service for January, 2001		
Office 8 toilets/urinals x $19.82	$158.56	
		$174.42
Plant Employees 237 x $3.60	$853.20	
		$938.52
Hot Process Water Discharge (25 GPM) (2)		
(10 Hr. Day) (60 Min./Hr.) = 30, 000 Gal. Per Day		
x 20 days = 600,000 -:- 1000 = 600		
600 x 1.42	$852.00	
600 x 1.56		$936.00
Net amount to be paid if postmarked or delivered by February 20, 2001.		
After that date, please pay gross amount.		
TOTAL NET	$1,863.76	
TOTAL GROSS		$2,048.94
	CDF000147	

Invoice # 00406B

DATE: Jan. 4, 2001

STARK COUNTY

METROPOLITAN SEWER DISTRICT

1701 MAHONING ROAD N.E. - P.O. BOX 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forge and Mfg. Co.

MAILING ADDRESS: 4575 Southway SW, Canton, Ohio 44706

SERVICE FEES FOR: December Service

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.

DESCRIPTION	NET	GROSS
Service month 12/00		
Office 8 toilets/urinals x $18.22	$145.76	
		$160.34
Plant Employees 219 x 3.31	$724.89	
		$797.38
Hot Process Water Discharge: (25GPM) (2)		
(10 Hr. Day) (60 Min./Hr) = 30,000 Gal per day		
x 20 days= 600,000 gals. -:- 1000 = 600		
600 x 1.31	$786.00	
600 x 1.44		**$864.60**
If payment is postmarked or delivered after January 19, 2001, please pay gross		
amount.		
TOTAL NET	**$1,656.65**	
TOTAL GROSS		**$1,822.32**

CDF000148

1(c)(d)(e)

January 15, 2001

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 000406B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $870.65 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 000406B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 000406B, $786.00

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

1(c)(d)(e)

CANTON DROP FORGE

December 8, 2000

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 000387B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $870.65 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 000387B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 000387B, $786.00

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000150

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

CANTON DROP FORGE

December 8, 2000

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 000369B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $160.34 representing Canton Drop Forge, Inc.'s payment of the gross amount for service fees allocated to the Office 3 toilets/urinals contained in Invoice No. 000369B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 000369B, $786.00.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000151

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

1(d)(e)

STARK COUNTY METROPOLITAN SEWER DISTRICT

MICHAEL S. ARMOGIDA, P.E.
DIRECTOR

Bill I WAS NOT PLANNING ON CONTESTING THE $145.76 FOR THE MAIN OFFICE. WE ONLY PAID THE $724.89 FOR THE PLANT EMPLOYEES. AT $786.00/MO I THINK IT IS WORTH THE COST TO KEEP THIS VOLUME OF WATER OUT OF THE LAGOONS. IF YOU AGREE WE WILL CONTEST THE $50 HOOK UP FEE ONLY AND WE CAN PAY THE REMAINING $931.76. 12/4/00

November 29, 2000

Attorney Anthony E. Brown, Esq.
Zollinger, D'Atri, Gruber, Thomas & Co.
P. O. Box 2985
6370 Mt. Pleasant Street N.W.
North Canton, Ohio 44720-0985

RE: FOLLOW UP TO OUR PHONE CONVERSATION
NOVEMBER 29, 2000

Dear Mr. Brown:

In our phone conversation today I informed you that there was a glaring error on my part regarding calculations on Invoice #387-B sent to Canton Drop Forging and Manufacturing Co. on November 3, 2000. When I calculated the "Hot Process Water Discharge" portion I indicated 600,000 gallons divided by 1000 equaled 6,000 gallons. Actually, it should be 600,000 -:- 1000 = 600.

OK WP dlw

The following is how the invoice should have been calculated:

Description	Net	Gross
Sanitary Sewer Service for 11/00		
Office 3 toilets/urinals x 18.22	$ 145.76	
		$ 160.34
Plant Employees 219 x $3.31	$ 724.89	
		$ 797.38
Hot Process Water Discharge (25 GPM) (2) (10 Hr. Day)(60 Min/Hr) = 30,000 Gal/Day x 20 Days = 600,000 Gal -:- 1000 = 600		
600 x 1.31	$ 786.00	
600 x 1.44		$ 864.60
Total Net	$1656.65	
		$1822.32

Canton Drop Forge paid $724.89 on Invoice #387-B that was the uncontested amount. Using our new calculations the contested balance due would be $931.76. Future invoices will reflect the new calculations.

P.O BOX 7906 • 1701 MAHONING RD N.E. • CANTON, OHIO 44705-7906
(330) 451-2303 • fax (330) 453-9044 • e-mail scse@co.stark.oh.us

If you have any other questions, I can be reached at 330-451-2306.

Very truly yours,

DICK THOMPSON
BILLING MANAGER

c: Michael Armogida
Conrad Moeller
file

1(c)(d)(e)

CANTON DROP FORGE

December 8, 2000

Stark County Metropolitan Sewer District
Attn. Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 000387B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $870.65 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 000387B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 000387B, $786.00

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000154

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

1(c)(d)(e)

CANTON DROP FORGE

December 8, 2000

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 000369B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $160.34 representing Canton Drop Forge, Inc.'s payment of the gross amount for service fees allocated to the Office 3 toilets/urinals contained in Invoice No. 000369B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 000369B, $786.00.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000155

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

1(c)(d)(e)

ZOLLINGER, D'ATRI, GRUBER, THOMAS & CO.
A Legal Professional Association
P.O. Box 2985
6370 Mt. Pleasant Street N.W.
North Canton, Ohio 44720-0985

Telephone (330) 497-2886
Facsimile (330) 497-7477

Fred H. Zollinger, Jr.
E. Lang D'Atri
Michael S. Gruber
David M. Thomas
Patricia P. Minkler
Christopher J. Freeman
Dawn E. Ranges
Valerie L. Burgess

Anthony E. Brown
Richard C. Zollinger, Jr.
Mark S. Miller
Brian C. Layman

Of Counsel
Cheryl L. Ramsburg
Jane L. Sack
Vincent Murphy*

*Admitted in Florida only

December 7, 2000

Stark County Metropolitan Sewer District
Attn: Mr. Steve Bellamy
Mr. Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Canton Drop Forge, Inc.

Dear Messrs. Bellamy and Thompson:

As you are aware, we were informed on or about November 29, 2000 that Stark County Sewer District had made a mathematical error in its billing for monthly service charges. This error, documented in invoice #369-B and in Mr. Thompson's letter dated October 19, 2000, resulted in a decrease of the proposed net monthly service charge by $6,983.35. Not surprisingly, the recognition of this error impacts the position of Canton Drop Forge as was detailed in my letter dated November 17, 2000.

Our client directed us to notify you that it is no longer investigating the possibility of internally disposing of its hot process water discharge and desires to continue to utilize the Stark County Metropolitan Sewer District's system. As you are also aware, on November 17, 2000 Canton Drop Forge mailed payment to your office in the amount of $724.89, representing the uncontested portion of the monthly service invoice. Our client has informed us that it does not contest the amount of $145.76 representing the monthly service charge for the Office 3 toilets/urinals. It is our understanding that Canton Drop Forge will be delivering a check to you in the amount of $160.34 for the gross amount detailed in Invoice # 369-B. At this point and in light of the mathematical error, Canton Drop Forge remains in its position and contests the remaining balance of the monthly service amount. Our records indicate that the remaining contested balance is $786.00, taking into account the correction of the mathematical error and the monthly amount allocated to the Office 3 toilets/urinals.

Please be advised that Canton Drop Forge's position regarding the proposed connection fee of $53,571.25 remains unchanged. Our client's position regarding this issue is detailed in my letter to you dated November 17, 2000.

Our client has directed us to notify you that it is still willing to quickly settle this matter. Canton Drop Forge, Inc. is willing to cease its contest of the monthly billing service amount and will agree to pay the monthly invoice net amount of $1,656.65, including the past contested amount contained in your November 3, 2000 Invoice as corrected, upon the condition that the Stark County Metropolitan Sewer District provides a written commitment to Canton Drop Forge to the effect that the Sewer District will take no further action regarding the proposed connection fee and withdraw from its position regarding the same.

As our client is anxiously awaiting a quick resolution to this matter, we request that you notify the undersigned of the Sewer District's position concerning the connection fee within ten (10) days of the date of this letter. In the meantime, please do not hesitate to contact me.

Very truly yours,

Anthony E. Brown

AEB
cc: Canton Drop Forge, Inc. (Via Facsimile)

1(c)(d)(e)

STARK COUNTY METROPOLITAN SEWER DISTRICT

MICHAEL S. ARMOGIDA, P.E.
DIRECTOR

October 19, 2000

TONY BROWN
RICK Z.
DICK P.

Canton Drop Forging and Mfg. Co.
4575 Southway SW
Canton, Ohio 44706

Attn: Keith Houseknecht

SUBJECT: MONTHLY SANITARY SEWER SERVICE BILLING

10 PM

Dear Mr. Houseknecht:

This letter is to inform Canton Drop Forging and Mfg. Co. that the current method of billing for monthly sanitary sewer service will be discontinued effective with the October, 2000 service.

Future monthly service charges will be on an invoice. The first invoice will be sent November 3, 2000. That invoice will be for October, 2000 service. The monthly service charges will be as follows:

	Net	Gross
Office 8 toilets/urinals x $18.22	$145.76	$160.34
Plant Employees 219 x $3.31	$724.89	$797.38

Hot Process Water Discharge (25 GPM) (2) SHIFTS
(10 Hr. Day)(60 Min/Hr) = 30,000 Gal/Day x 20 Days = 600,000 Gal -:- 1000 = 6,000

600

#786/mo

#531 $71.27

6,000 x 1.31	$7860.00	$8640.00
Total Net	$8730.65	
Total Gross		$9597.72

If payment is late, the gross amount is due. This is not an invoice.

Our Permits Department Supervisor will be contacting you regarding a connection charge that will be levied for process water discharged.

Should you have any questions regarding this change, contact our office at 330-451-2306.

Very truly yours,

DICK THOMPSON
BILLING MANAGER

12.5 MGD/DAY $28,000,000 +

CDF000158

c: M. Armogida
C. Moeller
S. Bellamy

CON DIRECTOR
MIKE ARMOGIDA

P.O. BOX 7906 • 1701 MAHONING RD. N.E. • CANTON, OHIO 44705-7906
(330) 451-2303 • fax (330) 453-9044 • e-mail scse@co.stark.oh.us

330 451 2303

1(c)(d)(e)

STARK COUNTY METROPOLITAN SEWER DISTRICT

MICHAEL S. ARMOGIDA, P.E.
DIRECTOR

October 20, 2000

Canton Drop Forge and Mfg. Co.
4575 Southway St. S.W.
Canton, Ohio 44706

Attn: Keith Houseknecht

RE: ADDITIONAL CONNECTION CHARGE FOR PROCESS WATER REMOVAL

Dear Mr. Houseknecht,

It has been recently brought to my attention that Canton Drop Forge has been discharging process water at 30,000 gal per day in addition to the normal sanitary wastes. The original sewer permit for the plant made no reference to discharging process water. An additional connection charge, in the amount of $ 53,571.25 is due. This fee can be paid by cash, check, or payment plan. The payment plan consists of a one-time fifteen percent carrying charge and is paid over a five year period. The first payment would be $ 1026.92 with an additional fifty-nine payments of $ 1026.78.

If you have any questions feel free to contact me at the number below.

Thank you,

Steve Bellamy
Permits Supervisor
(330)451-2304

c: M. Armogida
C. Moeller
file

CDF000159

P.O. BOX 7906 • 1701 MAHONING RD. N.E. • CANTON, OHIO 44705-7906
(330) 451-2303 • fax (330) 453-9044 • e-mail scse@co.stark.oh.us

1(c)(d)(e)

CANTON DROP FORGE

November 17, 2000

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 000369B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $870.65 representing Canton Drop Forge, Inc.'s payment of Invoice No. 000369B. As you will recall, the Stark County Metropolitan Sewer District, by letter dated October 19, 2000, notified Canton Drop Forge of an increase in its monthly service billing due to hot process water discharge from Canton Drop Forge's facility. By this letter, Canton Drop Forge, formally protests the service billing increase. It is our understanding that our attorneys have contacted you regarding this issue and are preparing a formal response to the notice of increase in monthly service billing. In the meantime, however, the payment enclosed represents the amount of the monthly service charge that remains uncontested by Canton Drop Forge.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht

cc: Anthony E. Brown, Esq.

CDF000160

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

1(c)(d)(e)

STARK COUNTY METROPOLITAN SEWER DISTRICT

MICHAEL S. ARMOGIDA, P.E.
DIRECTOR

November 29, 2000

Attorney Anthony E. Brown, Esq.
Zollinger, D'Atri, Gruber, Thomas & Co.
P. O. Box 2985
6370 Mt. Pleasant Street N.W.
North Canton, Ohio 44720-0985

RE: FOLLOW UP TO OUR PHONE CONVERSATION
NOVEMBER 29, 2000

Dear Mr. Brown:

In our phone conversation today I informed you that there was a glaring error on my part regarding calculations on Invoice #387-B sent to Canton Drop Forging and Manufacturing Co. on November 3, 2000. When I calculated the "Hot Process Water Discharge" portion I indicated 600,000 gallons divided by 1000 equaled 6,000 gallons. Actually, it should be 600,000 -:- 1000 = 600.

The following is how the invoice should have been calculated:

Description	Net	Gross
Sanitary Sewer Service for 11/00		
Office 3 toilets/urinals x 18.22	$ 145.76	
		$ 160.34
Plant Employees 219 x $3.31	$ 724.89	
		$ 797.38
Hot Process Water Discharge (25 GPM) (2) (10 Hr. Day)(60 Min/Hr) = 30,000 Gal/Day x 20 Days = 600,000 Gal -:- 1000 = 600		
600 x 1.31	$ 786.00	
600 x 1.44		$ 864.60
Total Net	$1656.65	
		$1822.32

Canton Drop Forge paid $724.89 on Invoice #387-B that was the uncontested amount. Using our new calculations the contested balance due would be $931.76. Future invoices will reflect the new calculations.

P.O. BOX 7906 • 1701 MAHONING RD N.E. • CANTON, OHIO 44705-7906
(330) 451-2303 • fax (330) 453-9044 • e-mail scse@co.stark.oh.us

If you have any other questions, I can be reached at 330-451-2306.

Very truly yours,

DICK THOMPSON
BILLING MANAGER

c: Michael Armogida
Conrad Moeller
file

CANTON DROP FORGE

March 5, 2001

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 00434B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $1011.76 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 00434B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 00434B, $852.00.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000163

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

INVOICE

INVOICE #00434B 3/5/01

METROPOLITAN SEWER DISTRICT

1701 MAHONING ROAD N.E. - P.O. BOX 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forging and Mfg. Co.
MAILING ADDRESS: 4575 Southway SW, Canton, Ohio 44706
SERVICE FEES FOR: Monthly Service

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

DESCRIPTION	NET	GROSS
Sanitary Sewer Service for February, 2001		
Office 8 Toilets/Urinals x $19.82	OK $158.56	
		$174.42
Plant Employees 237 x $3.60	OK $853.20	
		$938.52
Hot Process Water discharge: ;(25 GPM) (2)		
(10 Hr. Day) (60 Min/Hr.) = 30;000 Gal./Day		
x 20 days = 600,000 Gal. -:- 1000 = 600		
600 x 1.42	$852.00	
600 X 1.56		$936.00
Net amount to be paid if postmarked or delivered by March 19, 2001.		
After that date, please pay gross amount.		
TOTAL NET	$1,863.76	
TOTAL GROSS		$2,048.94

CDF000164

INVOICE # 00457B

4/5/01

STARK COUNTY

METROPOLITAN SEWER DISTRICT

1701 Mahoning Rd. N.E. P.O. Box 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forging and Mfg. Co.

MAILING ADDRESS: 4575 Southway SW, Canton, Ohio 44706

SERVICE FEES FOR: March Service

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

DESCRIPTION	NET	GROSS
Sanitary Sewer Service for March, 2001		
Office 8 Toilets/Urinals x $19.82	$158.56	
		$174.42
Plant Employees 237 x $3.60	$853.20	
		$938.52
Hot Process Water Discharge (25 GPM) (2)		
(10 Hr. Day)(60 Min/Hr) = 30,000 Gal/Day		
x 20 Days = 600,000 Gal. -:- 1000 = 600		
600 x 1.42	~~$852.00~~	
600 x 1.56		$936.00
Net amount to be paid if postmarked or delivered by April 19, 2001		
After that date, please pay gross amount.		
	1,011.76	
TOTAL NET	~~$4,863.76~~	
TOTAL GROSS		$2,048.94

Rec'd 4-23-01
CK# 97249 Dtd 4-19-01
$1,011.76
4-23-01

Please note, payment was received 4-20-01, following is balance due.
Office late charge $ 15.86
Plant late charge $ 85.32
Process Water $ 936.00
Total Balance due $1037.18

4-30-01
Rec'd CK# 97353 for $ 101.18
Balance due $936.00
Check dated 4-26-01

CDF000165

INVOICE

INVOICE #00434B 3/5/01

METROPOLITAN SEWER DISTRICT

1701 MAHONING ROAD N.E. - P.O. BOX 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forging and Mfg. Co.
MAILING ADDRESS: 4575 Southway SW, Canton, Ohio 44706
SERVICE FEES FOR: Monthly Service

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

DESCRIPTION	NET	GROSS
Sanitary Sewer Service for February, 2001		
Office 8 Toilets/Urinals x $19.82 Paid on check #96559 dated 3-8-1 rec'd 3-12-01	$158.56	
		$174.42
Plant Employees 237 x $3.60	$853.20	
		$938.52
Hot Process Water discharge: ;(25 GPM) (2)		
(10 Hr. Day) (60 Min/Hr.) = 30,000 Gal./Day		
x 20 days = 600,000 Gal. -:- 1000 = 600		
600 x 1.42	$852.00	
600 X 1.56		$936.00
Net amount to be paid if postmarked or delivered by March 19, 2001.		
After that date, please pay gross amount.		
Contested balance due as of 3-12-01		
TOTAL NET	$1,863.76	
TOTAL GROSS		$2,048.94

CDF000166

1(c)(d)(e)

CANTON DROP FORGE

May 14, 2001

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 00470B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $1011.76 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 00470B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 00470B, $852.00.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000167

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

INVOICE

INVOICE # 00470B

5/7/01

METROPOLITAN SEWER DISTRICT

1701 Mahoning Rd. N.E. P.O. Box 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forging and Mfg. Co.
MAILING ADDRESS: 4575 Southway SW, Canton, Ohio
SERVICE FEES FOR: April Service

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

Description	NET	GROSS
Sanitary Sewer Service for April, 2001		
Office: 8 Toilets/Urinals x $19.82	$158.56	
		$174.42
Plant Employees 237 x 3.60	$853.20	
		$938.52
Hot Process Water Discharge = (25 GPM) (2) (10 Hr. Day)(60 Min/Hr)=		
30,000 Gal/Day x 20 Days = 600,000 Gal -:- 1000 = 600		
600 x 1.42	$852.00	
600 x 1.56		$936.00
Net amount to be paid if postmarked or delivered by May 24, 2001. After that		
date, please pay gross amount.		
TOTAL NET	$1,863.76	
TOTAL GROSS		$2,048.94

CDF000168

1(c)(d)(e)

CANTON DROP FORGE

July 9, 2001

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 00495B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $1011.76 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 00495B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 00495B, $852.00.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000169

INVOICE

INVOICE #00495B 7/5/01

METROPOLITAN SEWER DISTRICT

1701 Mahoning Rd. N.E. P.O. Box 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forge & Mfg. Co.
MAILING ADDRESS: 4574 Southway SW, Canton, Ohio 44706
SERVICE FEES FOR: June, 2001

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

Description	NET	GROSS
Sanitary Sewer Service for June, 2001		
Office 8 Toilets/Urinals x $19.82	OK KSH $158.56	
		$174.42
Plant Employees 237 x $3.60	OK KSH $853.20	
		$938.52
Hot Process Water discharge : (25 GPM) (2)		
(10 Hr. Day) (60 Min/Hr._ = 30,000 Gal./Day		
x 20 days = 600,000 Gal. -:- 1000 = 600		
600 x 1.42	NOT PAID KSH $852.00	
600 x 1.56		$936.00
Net amount to be paid if postmarked or delivered by July 20, 2001. After		
that date, please pay gross amount.		
Total Net	$1,863.76	
Total Gross		$2,048.94

CDF000170

INVOICE #00495B 7/5/01

METROPOLITAN SEWER DISTRICT

1701 Mahoning Rd. N.E. P.O. Box 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forge & Mfg. Co.
MAILING ADDRESS: 4574 Southway SW, Canton, Ohio 44706
SERVICE FEES FOR: June, 2001

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

Description	NET	GROSS
Sanitary Sewer Service for June, 2001		
Pd on check # 98703		
Office 8 Toilets/Urinals x $19.82 dated 07-12-01	$158.56	
rec'd 07-18-01		$174.42
Plant Employees 237 x $3.60	$853.20	
		$938.52
Hot Process Water discharge : (25 GPM) (2)		
(10 Hr. Day) (60 Min/Hr._ = 30,000 Gal./Day		
x 20 days = 600,000 Gal. -:- 1000 = 600		
600 x 1.42	$852.00	
600 x 1.56		$936.00
Net amount to be paid if postmarked or delivered by July 20, 2001. After		
that date, please pay gross amount.		
Contested balance due		
as of 07-18-01		
Total Net	$1,863.76	
Total Gross		$2,048.94

CDF000171

INVOICE

INVOICE #00524B

9/5/01

METROPOLITAN SEWER DISTRICT

1701 Mahoning Rd. N.E. P.O. Box 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forging and Mfg. Co.
MAILING ADDRESS: 4575 Southway SW, Canton, Ohio 44706
SERVICE FEES FOR: August service month, 2001

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.

Description	NET	GROSS
Office 8 Toilets/Urinals x $19.82	$158.56	
		$174.42
Plant Employees 237 x $3.60	$853.20	
		$938.52
Hot Process Water Discharge 10,000 GPD		
10,000 x 16 Days = 160,000 Gallons		
160,000 -:- 1000 = 160		
160 x 1.42	$227.20	
160 x 1.56		$249.92
Hot Process Water Discharge for service months October, 2000		
through July, 2001 per Michael Armogida's letter dated Aug. 27, 2001		
These charges supersede charges for HPW on prior invoices.		
H.P.W. discharge 10, 2000 through 12, 2000	$628.80	
		$628.80
H.P. W. discharge 01,2001 through 07, 2001	$1,590.40	
		$1,590.40
Net amount to be paid if postmarked or delivered by September 20, 2001. After		
that date, please pay gross amount		
Total Net	$3,458.16	
Total Gross		$3,582.06

CDF000172

1(c)(d)(e)

STARK COUNTY METROPOLITAN SEWER DISTRICT

MICHAEL S. ARMOGIDA, P.E.
DIRECTOR

September 6, 2001

Canton Drop Forge and Mfg. Co.
4575 Southway St. S.W.
Canton, Ohio 44706

Attn: Mr. Keith Houseknecht

RE: CONNECTION FEES FOR INCREASED PROCESS WATER DISCHARGE

Dear Mr. Houseknecht,

Enclosed you will find an invoice for the amount of $10,690.04, this amount was taken from Mr. Michael Armogida's August 27, 2001 letter to Mr. Anthony Brown regarding the additional connection fee necessary to accommodate the increase in process water discharge. The calculation of this cost is based on the following information:

10,000 gallons/day discharge.
350 gallons/day per one unit of benefit.
10,000/350 = 28.57 units of benefit.
One unit of benefit is $374.17 (1990)
$374.17 x 28.57 = $10,690.04

The cost for one unit of benefit has been taken from the year 1990 as stated in Mr. Armogida's letter.

If you have any questions feel free to contact me at the number listed below.

Thank you,

Steve Bellamy
Permits Supervisor
(330) 451-2304

c: M. Armogida
C. Moeller
file

1(c)(d)(e)

These photographs reproduced from "Flow of Water Through Culverts", Bulletin 1, University of Iowa Studies in Engineering, illustrate the effect of pipe smoothness on the flow. Left: Flow is retarded by increased friction. Right: A typical smooth bore clay pipe.

Tables: n=0.010, n=0.011, n=0.012, n=0.013

Conveyance Factors

Conveyance Factors equal Q/Qd expressed as a percent. Q is the amount of flow at any depth and Qd is the amount of flow when the depth is at design depth. Design depth for pipe 15-inch and smaller, is one-half full (.5D) and for pipe 18-inch and larger, three-quarters full (.75D). Depths are expressed in terms of d/D, where "d" is the depth and "D" is the diameter. The Conveyance Factor Tables are shown on page 29.

Examples 1 and 2 demonstrate the use of the .5D Table for pipe 15-inch and less in diameter.

Example No. 1 Determination of Percentage of Design Capacity of an Existing Sewer

The depth of flow measured in a 10-inch sewer is 0.35 feet. The diameter of a 10-inch pipe expressed in feet is 0.83 feet. Use the.5D Table, calculate d/D, 0.35 divided by 0.83, equals 0.42. Enter table with 0.42 (.4 vertical and .02 horizontal) and read 73%. For the size, slope and "n", read Qd from the appropriate Design Capacity Graph. If 1.2 cfs is the Qd then multiply by 0.73 to find Q equal to 0.9 cfs.

Example No. 2 Determination of the Depth of Flow When the Q is Known

The same 10-inch sewer has a design capacity of 1.2 cfs. The estimated flow will be 0.7 cfs. To find the depth, divide 0.7 by 1.2 which equals 58%. Enter Table with 58% and read d/D of 0.37. Multiply by the diameter 0.83 feet to find depth of 0.31 feet.

Examples 3 and 4 demonstrate the use of the .75D Table for pipe 18-inch and larger in diameter.

Example No. 3 Determination of Quantity of Flow

The depth of flow in a 21-inch sewer is 1.12 feet. d/D is 1.12 divided by 1.75 or 0.64. Use the .75D Table and read 81%. If the Qd from the Design Capacity Graph for this line is 9.2 cfs, multiply 81% times 9.2 for a Q of 7.5 cfs.

Example No. 4 Determination of Depth of Flow When the Q is Known

"s" represents the slope of the energy gradient. It is numerically equal to the slope of the invert and the hydraulic surface in uniform flow.

VELOCITY VARIATIONS FROM DESIGN DEPTHS
(To Convert Depth/Diameter to % of Velocity)

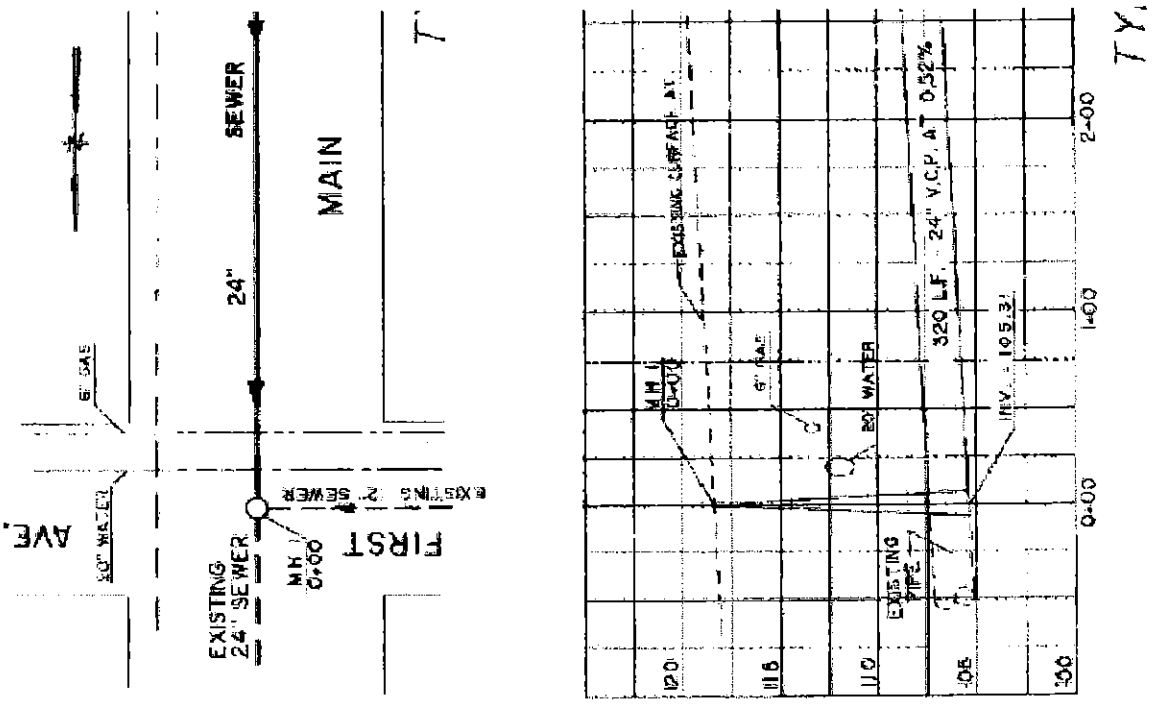
d/D	%V.5D	%V.75D	d/D	%V.5D	%V.75D
.05	26	23	.55	104	92
.10	40	35	.60	107	95
.15	52	46	.65	110	97
.20	62	54	.70	112	99
.25	70	62	.75	113	100
.30	78	69	.80	114	101
.35	84	74	.85	114	100
.40	90	80	.90	112	99
.45	95	84	.95	110	97
.50	100	88	1.00	100	88

Discussion of Values for "n"

The value of "n" for smooth bore pipe is affected by depth of flow, velocity of flow and quality of construction. In controlled experiments, using clean water, values of "n" under 0.009 have consistently been obtained for vitrified clay pipe and some other sewer materials. Many design engineers recommend that a more conservative value of "n" be used in design because of (1) the variations in "n" due to variable flow conditions, (2) the deposition of debris, grit and other foreign materials which find their way into a sewer system, (3) the build-up of slime and grease on all pipe surfaces, (4) the loss of hydraulic capacity of flexible pipe due to ring deflection and (5) misalignment due to construction or settlement. Based upon current data, it appears that "n" values of .010 - .013 can be applied to all types of smooth bore pipe. After pipe lines have been in place for several years, measurements may indicate "n" values which differ from the design value. These new values can be used for future flow calculations. Factors for determining Q's at different "n" values are shown on the Design Capacity Graphs (pages 24-27).

Computer Design

The National Clay Pipe Institute has developed a hydraulic design computer program using the Manning equations. The program can select pipe size, flow quantities or velocity in gravity flow sanitary sewers. It is available from the Institute or one of the member companies.



Quantity and Velocity Equations

The following equations are provided to show the basis for flow diagrams and to supply equations for more accurate hydraulic calculations. The designer is reminded that precise calculations of hydraulic data are not possible except under controlled conditions.

The Manning Equations The most commonly used velocity and quantity equations are:

$V=(1.486/n)*R^{2/3}S^{1/2}$ (Velocity)

$Q=(1.486/n)*ar^{2/3}S^{1/2}$ (Quantity)

"V" is the velocity of flow (averaged over the cross-section of the flow) measured in feet per second. For sewers flowing at design depth, "V" should exceed 2 feet per second to prevent settlement of solids in the pipe. Conversely, velocities exceeding 20 feet per second should be avoided where possible. Clay Pipe can handle high velocities without damage, however, manholes, structures and angle points must be designed carefully to avoid problems.

"Q" is the quantity of flow measured in cubic feet per second.

"n" is a coefficient of roughness which is used in Manning's Equation to calculate flow in a pipe. (See the following discussion of "n" values.)

"a" represents the cross-sectional area of the flowing water in square feet.

"r" represents the hydraulic radius of the wetted cross-section of the pipe measured in feet. It is obtained by dividing "a" by the length of the wetted perimeter.

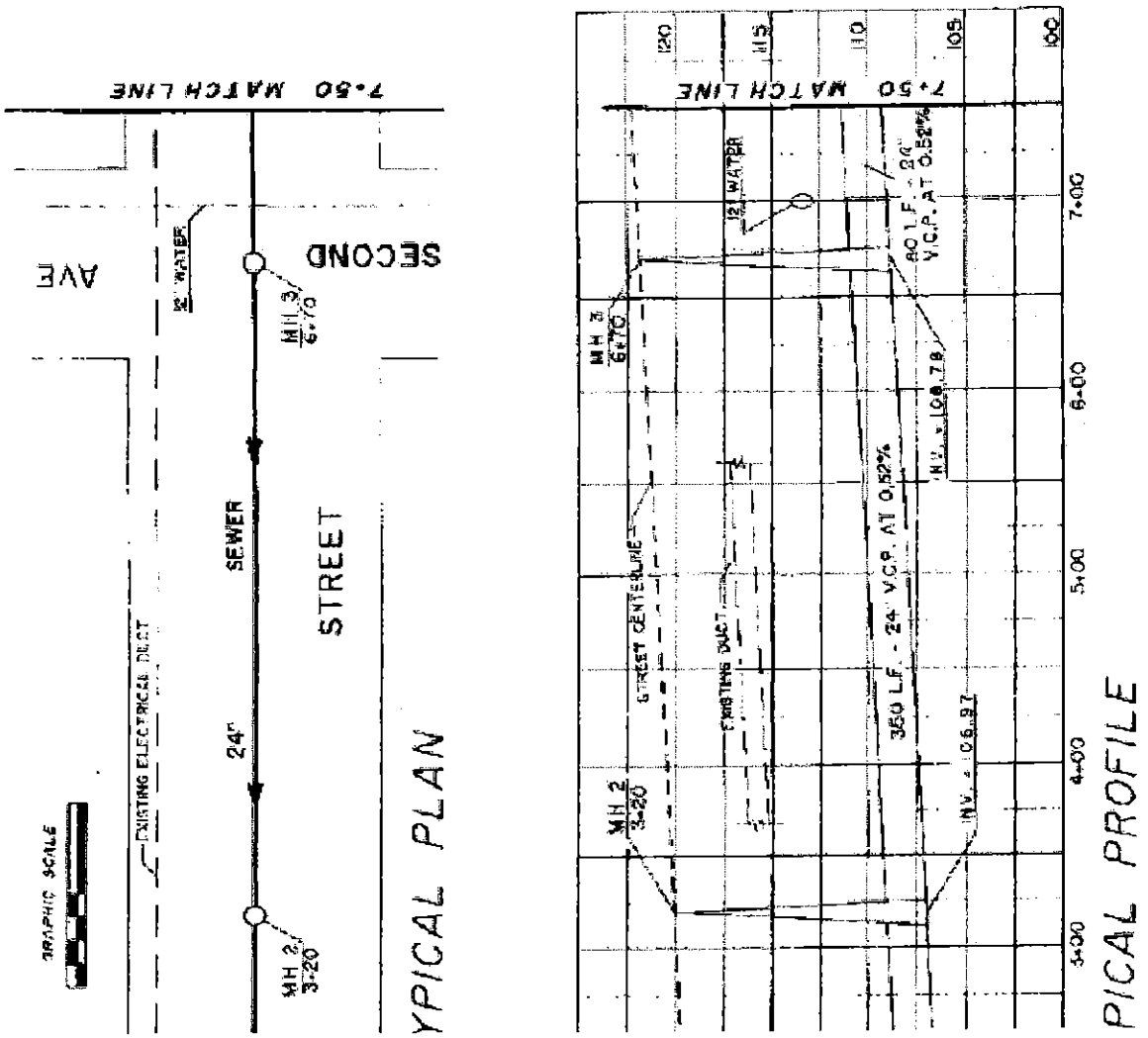
each confluence, making sure there is adequate clearance for substructures, and that the line meets all other controls. The pipe size will have to be rechecked if the slope has been changed for any reason.

Knowing the quantity of flow and the pipe size, the velocity can be calculated using the Manning Equation, the Velocity Variation Table (page 22) or the design Capacity Graphs (pages 24-27). The velocity head can be calculated to give the Energy Gradient.

In many cases, especially with large diameter sewers, it is necessary to carefully plot the energy gradient of the sewer to determine that the hydraulic design requirements are met.

In these cases, start at the downstream end of the profile and mark the energy gradient at that point. Where the flow enters another sewer it will be the energy gradient of that sewer.

A line to represent a tentative location for the energy gradient for the first section of sewer being designed is then drawn upstream following the available surface slope to the next control point on the profile. As discussed earlier, this could be a point where flow is added, a street intersection, an abrupt change in surface slope or other control points. Care must be taken to see that the final design of the sewer provides adequate cover and that the sewer clears all subsurface obstructions. The profile can now be finalized.



1. The velocity must be sufficiently high to prevent the deposition of solids in the pipe but not high enough to induce excessive turbulence. The minimum scouring velocity is 2 feet per second. Clay pipe is being used successfully where velocities exceed 20 feet per second.

2. Where changes are made in the horizontal direction of the sewer line, in the pipe diameter, or in the quantity of flow, invert elevations must be adjusted in such a manner that the change in the energy gradient elevation allows for the head loss.

3. Sanitary sewers through 15-inch diameter are normally designed to run half-full at peak flow and larger sewers are designed to run three-quarters full at peak flow.

After flow estimates have been prepared, (page 15) including all allowances for future increases and the layout of the system has been determined, the next step is to establish the slope for each line. Using the land use map (page 14) working profile sheets are prepared. The profile sheets show the surface elevations, subsurface structures and any other control points, such as house connections and other sewer connections. A typical profile for sewer design is shown on page 21.

Using the profile sheet, a tentative slope of the sewer is determined beginning at the lower end and working upstream between street intersections or control points. The slope is located as shallow as possible to serve the adjacent area and tributary areas with consideration to street grade and any control points or obstructions.

Determination of Pipe Sizes

Knowing the peak flow and the tentative slope, a tentative pipe size can be selected for each reach. Diagrams based on Manning's Equations showing quantity, slope, pipe size and velocity can be used to find pipe sizes. The diagrams show quantities for one-half depth for small pipe up through 15-inch diameter and three-quarters depth for 18-inch and larger sizes. The "n" values range from .010 to .013 (pages 24-27). Enter the diagram with Q and slope and read the larger pipe size. Except for cases where there are large head losses, the tentative pipe size will be the final pipe size.

Selecting the Sizes for the New Sewer Line

Using the flows (Qd) from the Sample Land Use Map (page 14), the pipe sizes may be selected after determining the slope of the line and the "n" value to be used.

The slope is obtained by drawing a preliminary profile showing control points, such as, sewers to be intercepted, major sub-structures, ground lines, outlet sewer, etc. The "n" value is selected by the user or specifying agency.

If the available slope is .005 along this reach and "n" equal to .012 was selected for design, use the "n" = .012 Design Capacity Graph shown on page 26. Locate the intersection of the .005 slope and Qd and read the larger pipe size. In the reach downstream from MH A the Qd is .96 cfs. This Qd intersects the .005 slope between a 10-inch and a 12-inch pipe. The larger pipe is usually selected. In the reach downstream from MH B, the Qd is 1.53 cfs, indicating that a 15-inch pipe will be required. Further downstream, the outflow from MH F is 9.4 cfs, and a 21-inch pipe is necessary.

As a final check, plot the pipe lines on the profile, set the outlet elevation and work upstream through

2	LD	68	.0031	.211						
	COM	2	.006	.012						
				.22	2.80	.6	.59	2.60	1.53	B
3	LD	44	.0031	.136						
	MD	40	.0116	.464						
	COM	4	.006	.024						
				.62	2.50	1.6	1.21	2.35	2.8	C
4	MD	50	.0116	.580						
	COM	14	.006	.084						
				.66	2.50	1.6	1.87			
5	COM	18	.006	.108						
				.11	2.80	.3	1.98	2.25	4.5	D
6	MD	12	.0116	.139						
	COM	4	.006	.024						
				16	2.80	.4	2.14	2.25	4.8	E
7	MD	200	.0116	2.320						
	COM	2	.006	.012						
				2.33	2.25	5.2	4.47	2.10	9.4	F
8	HD	120	.0217	2.604						
	COM	12	.006	.072						
				2.68	2.20	5.9	7.15			
9	MD	78	.0116	.905						
	HD	48	.0217	1.042						
	COM	16	.006	.096						
				2.04	2.25	4.6	9.19	1.96	18.0	G

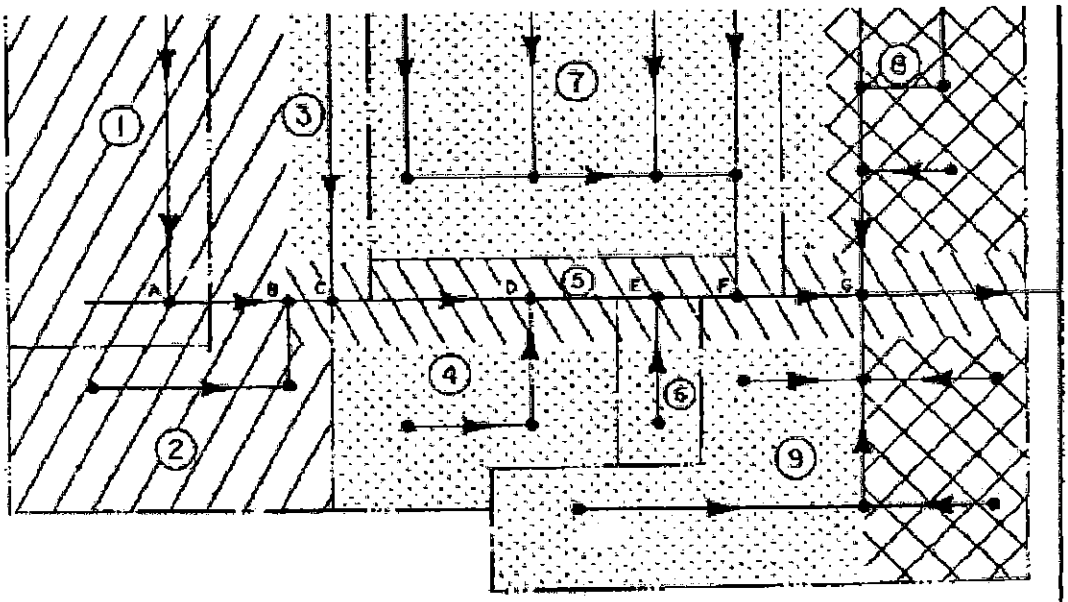
1. The coefficients of discharge used in this example are as follows:

(cfs per acre from page 13)

Low Density	LD	.0031
Medium Density	MD	.0116
High Density	HD	.0217
Commercial	Comm	.006

2. Peak Factors (Pf) are shown in the Peak Factor Table (page 17).

3. Qav flows are accumulated as they become tributary to the line. See Sample Land Use Map (page



MH	A	B	C	D	E	F	G
Qav.	.37	.59	1.21	1.98	2.14	4.47	9.19
Qd.	.96	1.53	2.8	4.5	4.8	9.4	18

LEGEND

- Exist. or Prop. Sewer
- Drainage Area Boundary - Lettered Manhole = Confluence Manhole — Flows generated in each drainage area can be accumulated along the sewer being studied.
- Low Density Res. - L. D.
- Medium Density Res. - M. D.
- High Density Res. - H. D.
- Commercial - Comm.

} Future or Ultimate land use information will normally determine the area in acres of each land use within each drainage area.

- Qav. Average Quantity
- Qpk. Peak Quantity
- Qd. Design Quantity = QPK

} From flow estimating calculations

SAMPLE OF FLOW ESTIMATING CALCULATIONS

FLOW ESTIMATING CALCULATIONS
(From Land Use Information)

Dr. Area	Land Use	Area	Coef.	Qav.	Pf	QPk	Sum. Qav.	Pf	Qd	Outflow from M.H.
1	LD	120	.0031	.372						
				.37	2.60	.96				
							.37	2.60	.96	A

A sewer flow monitoring program is necessary to determine when existing sewers will reach hydraulic design capacity. Monitoring methods vary from high water markers that record maximum depths to gaging with hand held mechanical tools or electronic devices. With a history of flow data, projections can forecast the year the peak flow will reach the design capacity of the sewer.

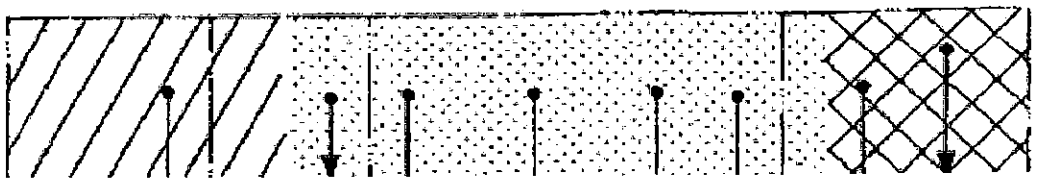
Check adjacent population, gagings, water consumption, rainfall and any other available data to determine if the measured quantity of flow is reasonable. If adjacent measurements or the estimate is greatly different from the gaged amount, the cause should be identified and corrected before proceeding with a relief sewer. With a long range projection of peak flow based on population and a short range projection based on past gagings, a reasonable estimate utilizing both can be made. As new or more reliable information becomes available, the projection should be updated. Planning for relief sewers must begin with sufficient lead time before the projection reaches the design capacity of the sewer.

Sewer line modeling computer programs are available to analyze existing systems and establish quantities for the design of relief sewers.

LAND USE	ABR.	AVERAGE COEFFICIENTS	
High Density R4, R5	H.D.	140 People/Acre (100 gpd)	.0217 cfs/Acre
Medium Density R3	M.D.	75 People/Acre (100 gpd)	.0116 cfs/Acre
Low Density RS, R1, R2	L.D.	20 People/Acre (100 gpd)	.0031 cfs/Acre
Suburban RA, RE	Sub	10 People/Acre (100 gpd)	.0016 cfs/Acre
Hillside	H.S.	7 People/Acre (100 gpd)	.0011 cfs/Acre
Agriculture A1, A2	Agr	2.5 People/Acre (100 gpd)	.0004 cfs/Acre
Light Industry CM, M1, M2	Lt	0.006 cfs/Acre	
Heavy Industry M3	Hvy	0.008 cfs/Acre	
General Commercial 2, 3, 5	Gen	0.006 cfs/Acre	
Limited Commercial CR, 1, 2	Ltd	0.006 cfs/Acre	
Hospital	H	500 gal/day/hosp. bed	
School	S	0.062 cfs/School	
University or College	U	0.371 cfs/Univ.	
Civic or Admin. Center	C.C.	0.005 cfs/Acre	
Airport	A	0.001 cfs/Acre	
Park	P	0.0003 cfs/Acre	
Future Park	F.P.	0.0003 cfs/Acre	
Golf	G	0.0003 cfs/Acre	
Cemetery	C	0	
Reservoir	R	0	
Public Works	W	0	
Open Space	O.S.	0	

Values should be verified or adjusted based on flow studies of the area if available.

SAMPLE LAND USE MAP



Inflow

A very few illicit roof drains connected to the sanitary sewer can result in a surcharge of smaller sewers. For example, a rainfall of 1 in. per hour on 1,200 sq. ft. of roof area, would contribute more than 12 gpm.

Connection of roof, yard and foundation drains to sanitary sewers should be legally prohibited and steps taken to eliminate them. Water from these sources and surface run off should be directed to a storm drainage system.

Tests indicate that leakage through manhole covers may be from 20 to 70 gpm with a depth of 1 in. of water over the cover. Such leakage may contribute amounts of storm water exceeding the average sanitary flow.

Infiltration

Two very prominent sources of excessive infiltration can be poorly constructed manholes and or connections and improperly laid house laterals. Laterals frequently have a total length greater than the collecting system and may contribute as much as 90% of infiltration. House connections should receive the same specifications, construction and inspection as public sewers.

In the past, sewer designers allowed higher amounts of infiltration to aid in transporting solids. Infiltration must now be kept to a minimum.

Advantages of Compression Joints and Couplings

Flexible compression joints and couplings conforming to ASTM C 425 *Compression Joints for Vitrified Clay Pipe and Fittings* have essentially replaced all other forms of joining vitrified clay pipe. Obsolete field joining systems can be major contributors to infiltration. The advantages of limiting infiltration, exfiltration and roots while providing flexibility and durability have been widely demonstrated. A tight and flexible joint is clearly desirable whether the sewer is above or below ground water.

Summations of Flow

Starting at the upper end of the sewer under review, add projected average flows for 50 or more years in the future. As the projected average flows from each drainage area are totaled, multiply by the appropriate peak factor (page 17) to determine the peak flow for each reach of the line. These values are the design capacities for the proposed sewer (page 15).

Flow Monitoring

Minimum flows must be considered in design of sewers and siphons to insure reasonable cleansing velocities.

Population Estimates

The best tool to use for estimating future sewage flow is population data. Forecasts of commercial and industrial flows are also helpful. A long range population forecast is needed and, if possible, an estimate of future commercial and industrial development. A larger value for gallons/capita/day (gcd) should be used when these estimates are not available.

Population data should be collected for the total drainage area. Population projections for large areas are generally more accurate than for smaller areas because historic records are more readily available and local changes have less influence.

Convert Population Data to Average Flow

Convert population data to quantity of sewage using an average gallons/capita /day (gcd). This per capita flow varies from 50 to 140 and some areas as high as 160 where industrial flows are included. The minimum and maximum average daily quantities for the initial and final years of the design period are necessary for designing siphons and treatment plants.

A value of 100 gcd has been found to be a reasonable average flow. This does not include commercial and industrial flows. An over-all figure of about 125 gcd may be used to convert population to average flow including commercial and industrial flow. The Land Use Coefficients (page 13) can be used to predict flow from future land use. These coefficients should be adjusted in accordance with flow studies in the local area. These rates make no allowances for flow from foundation drains, roofs or yard drains, none of which should be connected to a sanitary sewer. Plot a projection of average flow for the drainage area. A factor is applied to account for the variation between average flow and peak flow. This variation is primarily the result of the time of concentration since peak flows do not reach a point in a sewer at the same time. The use of a higher factor for small area flows (mainline sewers) as compared to large area flows (trunk sewers) is justified because small flows are particularly sensitive to changes, where a slight increase in rate of flow represents a large percentage increase. Larger areas and larger flows have a greater time of concentration that reduces the resulting variation.

Peak Factors

The "Peak Factor Table" (page 17) may be used to raise average flow to peak flow. "Peak Factors" are the relationship between average daily dry weather flow and the highest dry weather peak of the year and varies from 1.3 to 3.5. This method yields a reasonable estimate of the peak factors. As flows increase, the peak factor decreases. If possible, the peak factors should be adjusted to flow studies in the local area.

Extraneous Flows

Sanitary sewer design quantities should include consideration of the various non-sewage components which inevitably become a part of the total flow. The cost of transporting, pumping and treating sewage obviously increases as the quantity of flow delivered to the pumps or treatment facility increases. Thus, extraneous flow should be kept within economically justifiable limits by proper design and construction practices and adequately enforced connection regulations.

Clay Pipe Engineering Manual

Chapter 2, Gravity Sewer Design

Part I - Planning and Layout Sewer Planning

Planning for the economical development of a sewer system requires information on current flows and forecasts of future flows. The projection of flow increases should provide sufficient lead time to formulate economic proposals, secure approvals, arrange financing, design, construct and place in operation the necessary sewers to carry domestic, commercial and industrial wastewater from a community to a point of treatment.

Design Period

A design period must be chosen and sewer capacity planned that will be adequate. Professional planners are reluctant to predict land use or population changes for more than 20 years into the future. However, when planning, design, financing and construction are considered together with the relatively minor additional cost of providing extra capacity, a 50 year design period is the minimum that should be considered. Planners should design for ultimate development where special conditions exist such as remote areas near the boundary of a drainage area. Also to be considered are areas where special construction, such as tunnels and siphons, may be required. The cost of additional capacity is minimal compared to the cost of relief lines installed at a later date.

Mainline sewers should be designed for the population density expected in the areas served, since the quantity of domestic sewage is a function of the population and of water consumption. Trunk and interceptor sewers should be designed for the tributary areas, land use and the projected population. For these larger sewers, past and future trends in population, water use and sewage flows must be considered. The life expectancy of the pipe is critical when considering extended design periods.

Drainage Area

A drainage area is the territory being considered within which it is possible to find a continuously downhill surface route from any point to the established outlet. Drainage areas should also include areas that are tributary by gravity that will be served by future sewer construction and areas that are not tributary by gravity which could be served by pumping or adverse grade construction. It should be noted that natural drainage boundaries do not necessarily coincide with political boundaries.

Design Flows

A sanitary sewer has two main functions: (1) to carry the peak discharge for which it is designed, and (2) to transport suspended solids so that deposits in the sewer are kept to a minimum. It is essential, therefore, that the sewer have adequate capacity for the peak flow and that it function properly at minimum flows.

The peak flow determines the hydraulic capacity of sewers, pump stations and treatment plants.

NCPI Engineering Manual

| Chapter 1 | Chapter 2 | Chapter 3 | Chapter 4 | Chapter 5 | Chapter 6 | Chapter 7 | Chapter 8 | Chapter 9 | Chapter 10 | Chapter 11 |

[Home | Engineering Manual | Installation Handbook | Hydraulic Calculator | ASTM Standards | Tool Box | Videos | Tech Notes | Sewer Sense | Publication List | Members | Request Material | Contents | Feedback | E-mail]

If the Q is 8 cfs and Qd is 9.2 cfs, divide 8 by 9.2 to find the Conveyance Factor of 87%. Enter the Table with 87% and read d/D of 0.67. The depth for a Q of 8 cfs is 0.67 times the diameter 1.75, which is 1.17 feet.

CONVEYANCE FACTOR TABLES

d/D to %Qd
d/D depth over Diameter
%Qd = Q at any depth divided by Q design

.5D TABLE FOR PIPE 15" AND SMALLER
For pipe 15" and smaller, Qd = Q at a depth of .5 Diameter

d/D	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
.0	%	0	0	0	1	1	1	2	3	3
.1	4	5	6	7	8	10	11	13	14	16
.2	18	19	21	23	25	27	30	32	34	37
.3	39	42	44	47	50	52	55	58	61	64
.4	67	70	73	77	80	83	86	90	93	96
.5	100	103	106	110	113	117	120	124	127	131
.6	134	138	141	144	148	151	154	158	161	164
.7	167	170	173	176	179	182	185	188	190	193
.8	195	197	200	202	204	206	207	209	210	212
.9	213	214	214	215	215	215	214	213	211	208
1.0	200									

Example: The depth of flow in an 8" sewer was measured at .21. d/D = .21/.07= .31. Enter table for smaller sewers with d/D = .31 and read 42% Q design. Q design is read from Design Capacity Charts.

.75D TABLE FOR PIPE 18" AND LARGER
For pipe 18" and larger, Qd = Q at a depth of .75 Diameter

d/D	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
.0	%	0	0	0	0	1	1	1	1	2
.1	2	3	3	4	5	5	6	7	8	9
.2	10	11	12	13	14	15	16	17	19	20
.3	21	23	24	26	27	29	30	32	34	35
.4	37	39	40	42	44	45	48	49	51	53
.5	55	57	59	60	62	64	66	68	70	72
.6	74	76	77	79	81	83	85	87	88	90
.7	92	94	95	97	99	100	102	103	105	106
.8	107	109	110	111	112	113	114	115	116	116
.9	117	118	118	118	118	118	118	117	116	114
1.0	110									

Example: The depth of flow in an 18" sewer was measured at 1.02" d/D = 1.02/1.5= .68. Enter table with d/D = .68 and read 88% of Q design. Q design is read from Design Capacity Charts.

1(c)(d)(e)

CANTON DROP FORGE

August 7, 2001

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Invoice No. 00510B

Dear Mr. Thompson:

Please find enclosed a check in the amount of $1011.76 representing Canton Drop Forge, Inc.'s payment of the uncontested amount of service charges contained in Invoice No. 00510B. As explained in our counsel's December 7, 2000 letter, Canton Drop Forge, Inc. contests the remaining balance of Invoice No. 00510B, $852.00.

If you have any questions or desire to discuss this matter, please direct all phone calls and correspondence to the law firm of Zollinger, D'Atri, Gruber, Thomas & Co., Attention: Anthony E. Brown, Esq. Thank you for your time and attention to this matter.

Very truly yours,

Keith Houseknecht

Keith Houseknecht
Manager, Plant Engineering

cc: Anthony E. Brown, Esq.

CDF000187

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

INVOICE

Invoice # 00510B

8/6/01

METROPOLITAN SEWER DISTRICT

1701 Mahoning Rd. N.E. P.O. Box 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forge & Mfg. Co.
MAILING ADDRESS: 4575 Southway SW
SERVICE FEES FOR: July, 2001

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

Description	NET	GROSS
Sanitary Sewer Service for July, 2001		
Office 8 Toilets/Urinals x $19.82	$158.56	
		$174.42
{Plant employees 237 x $3.60	$853.20	
		$938.52
Hot Process Water Discharge (25 GPM) (2)		
(10 Hr. Day)(60 Min/Hr.)= 30,000 Gal/Day		
x 20 Days = 600,000 Gal. -:- 1000 = 600		
600 x 1.42	852.00	
600 x 1.56		$936.00
Net amount to be paid if postmarked or delivered by August 20, 2001.		
After that date, please pay gross amount.		
Total Net	$1,863.76	
Total Gross		$2,048.94

CDF000188

Invoice # 00510B 8/6/01

METROPOLITAN SEWER DISTRICT

1701 Mahoning Rd. N.E. P.O. Box 7906
CANTON, OHIO 44705-7906

COMPANY NAME: Canton Drop Forge & Mfg. Co.
MAILING ADDRESS: 4575 Southway SW
SERVICE FEES FOR: July, 2001

Make all checks payable to the STARK COUNTY TREASURER and mail, with YELLOW copy, to the STARK COUNTY SANITARY ENGINEER.
nnn

Description	NET	GROSS
Sanitary Sewer Service for July, 2001		
Pd on check #99075		
Office 8 Toilets/Urinals x $19.82 dated 8-9-1	$158.56	
rec'd 8-13-1		$174.42
{Plant employees 237 x $3.60	$853.20	
		$938.52
Hot Process Water Discharge (25 GPM) (2)		
(10 Hr. Day)(60 Min/Hr.)= 30,000 Gal/Day		
x 20 Days = 600,000 Gal. -:- 1000 = 600		
600 x 1.42	852.00	
600 x 1.56		$936.00
Net amount to be paid if postmarked or delivered by August 20, 2001.		
After that date, please pay gross amount.		
Contested Volume		
due as of 8-13-01		
Total Net	$1,863.76	
Total Gross		$2,048.94

CDF000189

1(c)(d)(e)

STARK COUNTY METROPOLITAN SEWER DISTRICT

MICHAEL S. ARMOGIDA, P.E.
DIRECTOR

August 27, 2001

Mr. Anthony E. Brown
Zollinger, Datri, Gruber, Thomas & Co.
P.O. Box 2985
6370 Mt. Pleasant Street N.W.
North Canton, Ohio 44720-0985

RE: CANTON DROP FORGE
FEES FOR PROCESS WATER

Dear Mr. Brown:

This letter will confirm our telephone conversation of August 24th.

Based on the information provided in your August 17th letter, it has been determined that Drop Forge is discharging a maximum volume of 10,000 gallons per day of process water to the sanitary sewer system. Utilizing that figure, the user fee for the process water will be calculated based on a usage of 10,000 gallons per day (2 shifts, 4 days per week, 16 days per month) at the rate in effect at any given time. Last year's rate was $1.31/1,000 gallons and the current rate is $1.42/1,000 gallons. Our Billing Manager will calculate appropriate charges commencing with service for October of 2000. These user fees are in addition to those levied for sanitary wastes.

Regarding the connection fee, documentation indicates that knowledge of the amount of discharge may have been available to the county in 1990 and that time frame will therefore form the basis for calculation of the fee. Per connection fee regulations, the number of special benefits calculated is 28.57 (10,000 gallons -:- 350 gal./benefit). Multiplying this figure by the value of a benefit in 1990, $374.17, results in a connection fee of $10,690.04.

Based on our understanding that no expansions that could generate substantive increases to flow are being contemplated by Drop Forge, the flow volumes forming the basis for the charges calculated are considered as final.

Please contact Mr. Steve Bellamy for information regarding payment of the connection fee and Mr. Dick Thompson regarding monthly billing (user fees).

Very truly yours,

MICHAEL S. ARMOGIDA, P.E.
Director

C: S. Bellamy
D. Thompson
file

P.O. BOX 7906 • 1701 MAHONING RD. N.E. • CANTON, OHIO 44705-7906
(330) 451-2303 • fax (330) 453-9044 • e-mail scse@co.stark.oh.us

STA[redacted] DISTRICT 1(c)(d)(e)

APPLICATION FOR SEWER CONNECTION PERMIT
To the Stark County Sanitary Engineer,
Canton, Ohio

Permit No. 392[illegible]3

Date 09/07/01 ***

District No. 22

I hereby authorize _____
Name of Individual or Company

Licensed Drain Layer, to take out a permit in my name for a connection into the County Sewer to serve

AC	ACREAGE		43-00284
Lot No. or Acreage	Allotment Name or 1/4 Sec.		Perma. Parcel No.

said premises being

4575	SOUTHWAY	SW	29.57
House No.	Street		No. of Units

COMMERCIAL MULTI-UNIT UNITS

I hereby agree that the construction and use of such sewer shall be strictly in accordance with the rules and regulations of the County Sanitary Engineering Department. I agree that I will be responsible for any damage or claims of any nature arising out of the contruction of said connection, or the excavation therefore, and will warrant and defend the County of Stark and Township Trustees, their officers and agents, against all such damages or claims; that I will furnish and maintain proper barricades and lights for the protection of the public, and that I will immediately refill and resurface all excavations and all settlements that may occur within one year from the acceptance of the work, and will pay to the County or Township Trustees the cost of any clearing up, removal of dirt or rubbish, refilling, or resurfacing excavation for this connection, and that I will pay the monthly service charge for sewage disposal upon presentation of statement by the County.

I specifically agree that no roof or surface water or other prohibited wastes shall be discharged into this construction.

I understand that the monthly service charge will start as soon as the connection is completed and approved.

I understand that the Connection Charge is $ 10690.04, and that I have the option of paying it now in full, or in 60 installments of $ 204.89 per month, which includes a small carrying charge.

INTEREST IS 3%
CONN. CHG. W/INT. = $ 12293.55

59 PAYMENTS@ $ 204.89
1 PAYMENT @ $ 205.04

I understand that the above Connection Charge was calculated based on information furnished to your office by me. Further, I understand that if, subsequent to the issuance of permit and/or connection completion and approval, the use of the above serviced premises changes, additional applicable connection charges will be levied in accordance with the regulations of the Stark County Metropolitan Sewer District.

☐ I hereby agree to all the above and elect to pay now in full, cash or certified check attached.

☐ I hereby agree to all the above and elect to pay said installments.

MICHAEL J SUTTLE
VICE PRES - FINANCE

*** APPLICATION EXPIRES IN 365 DAYS

Owner's Signature

4575 SOUTHWAY ST SW
Address

CANTON OHIO 44706

Original: - To File
cc: Owner
cc: For Installments: Sewer Improvement Record -- County Auditor and Billing Department

PERMIT FOR INCREASE OF PROCESS WATER (10,000 GAL./DAY)

RECEIPT — Received From: CANTON DROP FORGE & MFG. CO.

$ .00 ☐ Cash ☐ Money Order ☐ Check Check No. _____ BY: SJB

STARK COUNTY SANITARY ENGINEERING DEPT.
SEWER DIVISION 1701 MAHONING ROAD N.E.
P.O. BOX 7906 CANTON, OHIO 44705

ok ADDRESS SERVICE REQUESTED

STARK COUNTY TAP-IN BILL

CANTON OHIO

FIRST CLASS U.S. POSTAGE PAID PRESORTED PERMIT NO 500

STARK COUNTY SEWER DISTRICT

CDF000191

1(c)(d)(e)

CANTON DROP FORGE

December 12, 2002

Stark County Metropolitan Sewer District
Attn: Dick Thompson
1701 Mahoning Road, N.E.
P.O. Box 7906
Canton, Ohio 44705-7906

Re: Number of employees

Dear Mr. Thompson:

The average number of employees at Canton Drop Forge was 195 during the 2002 calendar year. This number does not include office employees.

Very truly yours,

Keith J. Houseknecht
Manager, Plant Engineering

CDF000192

4575 Southway Street S.W. • P.O. Box 6902 • Canton, Ohio 44706-0902 • (330) 477-4511 • FAX (330) 477-2046

Keith Houseknecht

From: Janet Adams
Sent: Thursday, December 05, 2002 12:55 PM
To: Keith Houseknecht
Subject: numbers you requested.

Day shift including foreman/plant production = 106
2nd shift including foreman/plant production = 67
3rd shift including foreman/plant production = 26
TOTAL HOURLY EMPLOYEES = 199

TOTAL SALARY EMPLOYEE = 46

Let me know if you need anything else.

Janet

1(c)(d)(e)

STARK COUNTY METROPOLITAN SEWER DISTRICT

MICHAEL S. ARMOGIDA, P.E.
DIRECTOR

December 5, 2002

Canton Drop Forging and Mfg. Co.
4575 Southway SW
Canton, Ohio 44706

Attn: Michael J. Suttle

Dear Mr. Suttle:

Would you please send us the average number of employees at the subject address this past calendar year, do not include office personnel. This is needed to calculate sewer service charges for 2003. Please reply by December 31, 2002.

The enclosed envelope is for your convenience in replying.

Very Truly Yours,

Dick Thompson
Billing Manager

c: file

P.O. BOX 7906 • 1701 MAHONING RD. N.E. • CANTON, OHIO 44705-7906
(330) 451-2303 • fax (330) 453-9044 • e-mail scse@co.stark.oh.us

Notice of Completion of Connection 1(c)(d)(e)

County of Stark,
Sanitary Engineering Department.

Permit No. 813

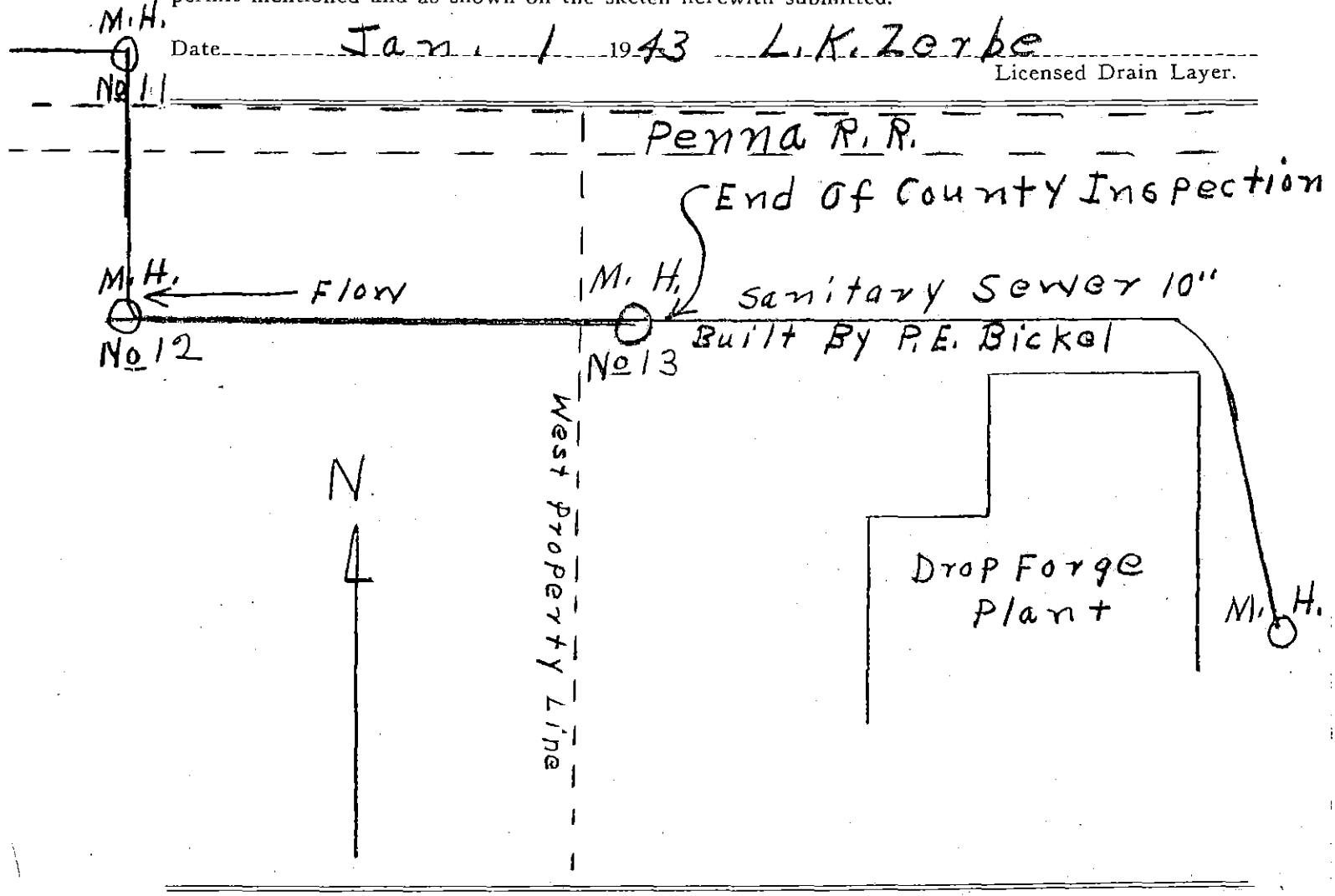
Reedurban-Genoa Sewer District No. 9

Property of Defense Plant Corp. being Lot No Acerage 17.44 ac. in Acerage N.E. 1/4 Sec. 13 Addition on North side of South Canton-Mass. Rd. Street, between Paff Rd. Street and Perry Rd. Street.

To the Sanitary Engineer of Stark County, Ohio:

The sewer connection above described has been completed in accordance with the terms of the permit mentioned and as shown on the sketch herewith submitted.

Date Jan. 1 1943 L. K. Zerbe
Licensed Drain Layer.



Date of tapping Jan. 1 1943 In spected and accepted Jan. 1 1943

Sizes and locations checked as correct on sketch.

W.T.C. Baker
Inspector.

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